

What Is Claimed Is:

1. A method for operating a fuel metering system of a motor vehicle, fuel being delivered by at least one supply pump to at least one high pressure area (1), the fuel being injected by at least one fuel injector (8) from the high pressure area (1) directly into at least one combustion chamber (4), at least one sensor (19) detecting the pressure (P) in the high pressure area, and at least one pressure regulating element (18) being provided for adjusting the pressure in the high pressure area (1), wherein the change in pressure in the high pressure area (1) over time is limited.

2. The method as recited in Claim 1, wherein the pressure is limited as a function of a maximum possible delivery of the supply pump.

3. The method as recited in Claim 2, wherein permissible pressure gradient values are stored in speed-dependent and load-dependent characteristic maps.

4. The method as recited in Claim 1, wherein the limitation is implemented as a function of a specifiable injection quantity error (EMF).

5. The method as recited in Claim 1 or 4, wherein the limitation is specified in each case for a period (TR) between two rail pressure gradient computations.

6. The method as recited in Claim 1 or 4, wherein the limitation is implemented at least as a function of an instantaneous pressure (P) in the high pressure area (1) and/or a sampling rate (TA) of the pressure measurement in the high pressure area (1) and/or an engine speed (N) and/or specific data of the supply pump (AN).

7. The method as recited in Claims 2 and 4,

wherein limiting values are determined in at least two different ways, the minimum of the limiting values is determined by a comparison operation, and this minimum value is selected as the limit for the change in pressure in the high pressure area (1) over time.

8. A computer program for an internal combustion engine of a motor vehicle, having a sequence of instructions that are suitable for performing the method as recited in one of Claims 1 through 7 when they are executed on a computer,, in particular a control unit for an internal combustion engine.

9. The computer program as recited in Claim 8, wherein the sequence of instructions is stored on a computer-readable data medium.

10. A control unit for operating a fuel metering system of a motor vehicle, fuel being delivered by at least one supply pump to at least one high pressure area (1), the fuel being injected by at least one fuel injector (8) from the high pressure area (1) directly into at least one combustion chamber (4), at least one sensor (19) detecting the pressure (P) in the high pressure area, and at least one pressure regulating element (18) being provided for adjusting the pressure in the high pressure area (1), wherein the change in pressure in the high pressure area (1) over time is able to be limited.

11. A fuel metering system for an internal combustion engine of a motor vehicle, having at least one supply pump for delivering fuel to at least one high pressure area (1), having at least one fuel injector (8) for direct injection of the fuel from the high pressure area (1) into at least one combustion chamber (4), having at least one sensor (19) for detecting the pressure (P) in the high pressure area (1) and having at least one pressure regulating element (18) for setting the pressure in the high pressure area (1),

wherein the change in pressure in the high pressure area (1) over time is able to be limited.